

WHAT IS CLAIMED IS:

1. An apparatus for disposing a device in the target area of a lumen, comprising: a cylindrically shaped (motor attached to said device,) said motor having a longitudinal bore, said motor provided with a motor friction area disposed within said longitudinal bore; a guide wire disposed within said longitudinal bore, said guide wire and said longitudinal bore sized and adapted to impart friction between said friction area of said motor and said guide wire in an amount sufficient to permit said motor to change position relative to said guide wire by crawling against said guide wire when said motor is energized.

2. The apparatus of claim 1, further comprising a biasing means to bias said guide wire against said friction area.

2/3. The apparatus of claim 2, wherein said biasing means is a leaf spring.

Sub 92 4. An apparatus for disposing a device in the target area of a lumen, comprising: a cylindrically shaped (motor ~~attached to said device,~~) said motor having an outer surface, said motor provided with a friction area on said outer surface; a cylindrical guide tube having an outer surface and an inner surface defining a longitudinal bore, said outer surface of said motor and said inner surface of said guide tube sized and adapted

to impart friction between said friction area of said motor and said inner surface of said cylindrical guide tube in an amount sufficient to permit said cylindrical motor to change position relative to said guide tube by crawling against said inner surface of said guide tube when said motor is energized.

4/5. The apparatus of claim <sup>3</sup>4, further comprising a biasing means to bias said inner surface of said guide tube against said friction area.

5/6. The apparatus of claim <sup>4</sup>5, wherein said biasing means is a leaf spring.

6/7. A method of disposing a device in the target area of a lumen, comprising the steps of:

a) constructing an apparatus comprising a cylindrically shaped motor attached to said device, said motor having a longitudinal bore, said motor provided with a motor friction area disposed within said longitudinal bore, a guide wire disposed within said longitudinal bore, said guide wire and said longitudinal bore of said motor sized and adapted to impart friction between said friction area of said motor and said guide wire in an amount sufficient to permit said motor to change position relative to said guide wire by crawling against said guide wire when said motor is energized;

b) advancing said guide wire to said target area;

15

- c) securing said guide wire;
- d) energizing said motor so that said motor advances along said guide wire to said target area to dispose said device in said target area of said lumen; and
- e) withdrawing said guide wire, motor, and device from said lumen.

78. A method for disposing a device in the target area of a lumen, comprising the steps of:

a) constructing an apparatus comprising: a cylindrically shaped motor having an outer surface, said motor provided with a friction area on said outer surface, a cylindrical guide tube having an outer surface and an inner surface defining a longitudinal bore, said outer surface of said motor and said inner surface of said guide tube sized and adapted to impart friction between said friction area and said inner surface of said cylindrical guide tube in an amount sufficient to permit said cylindrical motor to change position relative to said guide tube by crawling against said inner surface of said guide tube when said motor is energized;

- b) advancing said guide tube to said target area;
- c) securing said guide tube;
- d) inserting said motor attached to said device in said bore of said guide tube;
- e) energizing said motor so that said motor advances along said inner surface of said guide tube to said target area to

16

dispose said device in said target area of said lumen; and

f) withdrawing said guide tube, motor, and device from said lumen.

8/9. An apparatus for disposing a stent in the target area of a lumen, comprising: a catheter having a proximal end, a distal end, a longitudinal bore therethrough, and an expandable balloon disposed at said distal end; a cylindrically shaped motor disposed at said distal end of said catheter distal to said balloon, said motor having a longitudinal bore communicating with said longitudinal bore of said catheter, said motor provided with a motor friction area disposed within said longitudinal bore of said motor; a guide wire disposed within said longitudinal bore of said catheter and said longitudinal bore of said motor, said guide wire and said longitudinal bore of said motor sized and adapted to impart friction between said friction area of said motor and said guide wire in an amount sufficient to permit said motor to change position relative to said guide wire by crawling against said guide wire when said motor is energized.

9 10. The apparatus of claim 8, further comprising a biasing means to bias said guide wire against said friction area.

10 11. The apparatus of claim 9, wherein said biasing means is a leaf spring.

11  
~~12~~ A method of disposing a stent in the target area of a lumen, comprising the steps of:

a) constructing an apparatus comprising: a catheter having a proximal end, a distal end, a longitudinal bore therethrough, and an expandable balloon disposed at said distal end; a cylindrically shaped motor disposed at said distal end of said catheter distal to said balloon, said motor having a longitudinal bore communicating with said longitudinal bore of said catheter, said motor provided with a motor friction area disposed within said longitudinal bore of said motor, a guide wire disposed within said longitudinal bore of said catheter and said longitudinal bore of said motor, said guide wire and said longitudinal bore of said motor sized and adapted to impart friction between said friction area of said motor and said guide wire in an amount sufficient to permit said motor to change position relative to said guide wire by crawling against said guide wire when said motor is energized;

b) advancing said guide wire to said target area;  
c) securing said guide wire;  
d) energizing said motor so that it advances along said guide wire to said target area to dispose said stent in said target area of said lumen;

e) inflating said balloon to secure said stent in said target area of said lumen;

f) deflating the balloon; and

g) withdrawing said guide wire, motor, and catheter from

said lumen.

<sup>12</sup>  
13. A method of disposing a stent in an obstructed target area of a lumen, comprising the steps of:

- a) constructing an apparatus comprising: a catheter having a proximal end, a distal end, a longitudinal bore therethrough, and an expandable balloon disposed at said distal end; a cylindrically shaped motor disposed at said distal end of said catheter distal to said balloon, said motor having a longitudinal bore communicating with said longitudinal bore of said catheter, said motor provided with a motor friction area disposed within said longitudinal bore, a guide wire disposed within said longitudinal bore of said catheter and said longitudinal bore of said motor, said guide wire and said longitudinal bore of said motor sized and adapted to impart friction between said friction area of said motor and said guide wire in an amount sufficient to permit said motor to change position relative to said guide wire by crawling against said guide wire when said motor is energized;
- b) advancing said guide wire to said target area;
- c) securing said guide wire;
- d) energizing said motor so that said motor advances along said guide wire to said obstructed target area;
- e) securing said catheter;
- f) energizing said motor so that said guide wire advances through said longitudinal bore of said motor and into said obstructed target area of said lumen;

- g) securing said guide wire;
- h) energizing said motor so that said motor advances along said guide wire and disposes said stent in said target area of said lumen;
- i) inflating said balloon to secure said stent in said target area of said lumen;
- j) deflating said balloon; and
- k) withdrawing said guide wire, motor, and catheter from said lumen.

091223-0743  
367E20 22222T60